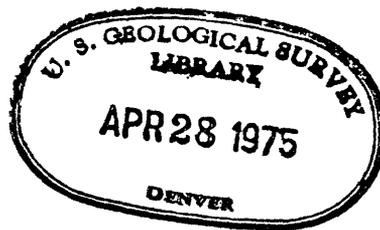


U.S. GEOLOGICAL SURVEY
OPEN-FILE REPORT 75-166

1975

SEISMIC REFLECTION PROFILES
R/V POLARIS MARCH 1972
OFFSHORE SOUTHERN CALIFORNIA
PT. CONCEPTION CRUISE
Chief Scientist: S. C. Wolf



U. S. Geological Survey
OPEN FILE REPORT
This report is preliminary and has
not been edited or reviewed for
conformity with Geological Survey
standards

LIST OF PROFILES AS THEY OCCUR ON THE MICROFILM

NOTE: Due to equipment problems and poor weather conditions, some lines were of very poor acoustic quality and were re-run. Only the better quality profiles are provided.

Lines run mainly at 3 second sweep and shoot rate (deep penetration):

4-3A, 2-1, 1-5, 1-10, 1-7, 4-9, 4-13, 2-11, 2-17A, 3-15, 2-17 (part),
4-23, 2-17 (part), 3-21, 3-19, 7-26, 7-29, 7-28, 7-31, 6-33, 6-30,
6-35, 7-43, 6-45A, 6-45, 6-47, 6-38, 7-40, 8-2A, 8-2, 4-A, 4-12,
4-B, 7-27, 5-25, 5-24, 5-23, 5-39, 7-21, 7-20, 6-19, 5-17A, 5-17 (part),
4-D, 8-15, 8-13, 8-14, 8-11, 8-12, 8-9, 8-10, 8-6, 8-7, 8-8, 8-3 (part),
8-4, 8-5, 8-3B, 8-3A, 8-3 (part), 2-2, 2-4, 3-6, 3-8, 4-3B, 6-37,
6-32, 8-34, 5-17 (part), 5-36, 4-C, 8-53, 8-49, 8-1, 8-54, 8-55,
8-52, 4-14, 3-3, transit line from Port San Luis to Monterey Bay.

Lines run mainly at 1/4 second sweep and shoot rate (high resolution):

4-1A, 1-5, 1-7, 4-9, 4-13, 4-23, 7-29, 7-28, 7-31, 6-33, 6-30, 6-35,
5-39, 7-20, 7-43, 6-45, 6-45A, 6-47, 8-2A, 1-10, 4-12, 4-13A,
7-27, 5-36, 5-25, 5-23, 7-21, 6-19, 5-17, 8-15, 8-13, 8-11, 8-9, 8-7,
8-5, 8-3, 8-3B, 2-4, 2-11, 3-6, 3-8, 4-3B, 6-32, 8-37, 7-26, 8-2, 8-34,
6-38, 7-40, 8-1, 8-49, 8-53, 8-52, 8-54, 8-55, 8-10, 3-19, 3-21,
transit line from Port San Luis to Monterey Bay.

SCIENTIFIC LOG

February 28, Monday

1100- Left San Francisco under gate. Dumped drifters at appropriate locations.

1430- Headed south. Seas somewhat choppy from the southwest, cloudy. Transit through the night at about 350 RPM due to seas. Winds 10-30 knots.

February 29, Tuesday

0930- Arrive off San Luis Harbor. Seas somewhat choppy (4-5 feet with small white caps). Prepared to run test lines due N-S and E-W, one mile north of Purisima Point. Alerted Frontier Control, Vandenberg Naval Missile Facilities and they prepared to track us.

1030- Generators acting erratically before starting all equipment. 12 KW generator voltage fluctuating 65-110 volts; makes improper timing for equipment. Ship's generator failed. Short time later stand-by 12 KW generator failed. Checked ship's fuel and determined that water had somehow gained entrance and that fuel was very dirty. As a result, filters were clogged. Seas picking up. Pulled in all scientific gear. Shut down Main engine for fear of water in that system also. Adrift for 2-3 hours before jury-rigging a full by-pass for green 30 KW generator. Taking 20-40 degree rolls. Sea anchor deployed but not very effective, Heavier rolls encountered, fast drift rate, continued to lie in trough. Skipper called Coast Guard for assistance. Frontier Control alerted to situation. Cape Hedge deployed from Morro Bay to assist in tow to San Luis Harbor.

Approximately 1 hour before Coast Guard cutter arrival. Ship underway at slow speed; main and green generators operating on dirty fuel. Repeated drainings necessary to keep fuel reasonably usable. Cutter arrived and escorted Polaris to Port San Luis. Seas continued 6-8 feet. Slow transit about 250 RPM. Winds 40-60 knots.

1830- Arrived Port San Luis.

March 1, Wednesday

0900- Put over Boston whaler from Polaris and borrowed Port San Luis truck. Drove to Morro Bay to purchase clean fuel and water filters (3 each) for generators, and necessary hoses for connections.

1400- Arrived back at ship. Left in whaler for Polaris, Mercury 65 outboard froze; no control of whaler which several times ran at uncontrolled speed and then quit. Adrift; wind took us to nearby boat. After considerable wait a tow arrived and took us to Polaris. Whaler pulled aboard and engine checked; could not repair and sent Mercury back to shore for repair. Contacted Vandenberg group and told them we could run no lines today. Started on filter installation. That evening injectors found plugged in white 30KW generator. Pulled out and sent for repair.

March 2, Thursday

0800- Continued filter installation. Again borrowed truck and went to San Luis Obispo, Morro Bay, and then to Santa Maria to have injectors rebuilt.

1500- Returned and began reassembly of engine and filter hook up.

Mercury outboard engine not repairable immediately, 2-3 day delay.

Borrowed 6 horsepower Evinrude from Harbormaster, Port San Luis.

March 3, Friday

0330- Pulled anchor and headed out to Line 4 . Air in fuel lines; engine won't start. Dropped anchor.

0400- Pulled anchor, again underway.

0530- On Line 4-9, Pt. Sal to Pt. Arguello; seas moderate. Wind freshened and sea state up between 0700 and 0800. 30,000 joules energy, 50-125 Hz filter band pass, 1.5 sec sweep and shoot. Uniboom 350-2000 Hz, 1/4 sec sweep, 200 joules; 12 Kc on Giffit, 190 RPM; o/c 179°T.

0900- SY amplifier on tele-Ray. Down R/R.

0950-0955- USGS Arcer Test vs Uniboom in rough seas; Uniboom on.

1000- c/c to Line 4-12. (c/c early due to passing ship) o/c 128°T, same systems.

1030-1035- USGS Arcer on; uniboom off.

1050- Continued on course to Line 4-A. These additional lines added toward Coho Cove due to sea conditions; not suitable to continue Line 4-23. Uniboom not functioning properly. Line 4-B, uniboom on deck; Line 4-C, uniboom on deck; Line 4-D to Coho Cove, seas medium-heavy. Using 12 KC and 20 KJ. End line and day at Coho Cove.

March 4, Saturday

0430- On Line 8-34; uniboom, 12 KC, and 30 KJ systems on. Reasonably calm run at start, increasing swells toward end of line. Uniboom 500 Hz-12 Kc, 30 KJ (50-125 HZ).

0450- Abeam oil rig (Harry).

0452- Abeam oil rig (Herman).

0515- uniboom off

0518- USGS Arcer on

0523- Uniboom on (fouled with kelp most of run)

0617- End Line 8-34 with USGS Arcer on; uniboom off

0617-0630- slow turn to clean kelp off equipment.

0630- Start Line 8-3 (seas medium-heavy). USGS Arcer, 30 KJ, 12 KC on.

Weather for 0630: Small Craft warnings between Point Conception and Santa Barbara. Light winds morning; 10-18 knots, afternoon from Point Conception to north.

0710- USGS Arcer system off, uniboom system on.

0745- End Line 8-3.

0747- Start line 8-3A (west to east 090° from Line 8-3)

0808- Start Line 8-3B. During line fish depth shows 7 fathoms (42 feet).

Ship depth shows 52 feet.

0845- End Line 8-3B; 30 KJ, Uniboom. Due to wind forecasts, we headed for Channel Island Marina to wait out winds for a day, resupply with water and supplies.

March 5, Sunday

Layover Channel Island Marina; wait out swells.

March 6, Monday (very calm south wind, variable)

0245- Leave Channel Island Marina

0830- Come onto Line 8-1 area

0830-0939- EPC-Trigger problem

0939- Start Line 8-1. Uniboom 500 Hz-2Kc 1/4 sec sweep, 1/4 Rp. EPC;
12 Kc; 30 KJ 50-125 Hz; 1 1/2 sec sweep 3 sec RR; seas calm, no
wind. o/c 150°.

1008- c/s Uniboom to 1/2 sec sweep; will not with key

1021- c/c to Line 8-49

1025- EPC stopped paper feeding. Print short section USGS Arcer

1030- 175 feet

1040-1115- uniboom section.

1300- test uniboom again; Line 8-49

1356-1410- rerun Line 8-49 at 3 sec sweep to check penetration.

1410-1430- Return to 1300 position.

1430- Continue Line 8-49 at 1 1/2 sec sweep

1500- Uniboom on after replacing blown capacitor in trigger bank.

1503- Back at 1330 position and re-run, fathometer on. Continue 8-49
with all systems on. Swell motion on Uniboom and 12 kc record
increasing toward San Miguel.

1557- End Line 8-49. Eliminate Line 8-50, 8-51, and 8-52 due to generator
problems. Spend night at Cuyler Harbor, San Miguel Island. Replumb
30 KW generator cooling system to bypass fresh water (water pump
out). Radar down due to switch over to other generator. Fuel
filters dirty.

March 7, Tuesday (South winds 5-10 knots)

0300- departure not possible due to weather.

0648- Start Line 8-53 with slight overlap to complete straight N-S line

0709- Approximately at 1600 of line 8-49 of previous day. Start Line
8-53. Slight swell motion in 12 KC^{and} uniboom records.

0744- 30 KW system down- disconnect sensor wire circle.

0800- Restart line at 0744 position.

0817-0833- Circling, trouble with uniboom paper.

0834- Restart Line 8-53.

0945- End Line 8-53 with 12 Kc, 30 KJ system and uniboom.

0947-1032- Circling

1032- Start Line 8-54

1251- End Line 8-54

1253- Start Line 8-55 with 30 KJ only. Program problems with EPC; no
uniboom record.

1345-1420- Phone call chewed record.

1423- Uniboom back on.

1500- Trouble with uniboom paper.

1625- Uniboom off; continue line with 30KJ. Little penetration
with uniboom.

1746- End of Line 8-55; crossing of Line 7-21 for tie

1754- Continue Line 8-55 to Coho Cove; o/c 010°. Extension of line for
testing marker system.

March 8, Wednesday

- 0936- Start Line 7-43. 12 KC, 30 Kj, uniboom (sweeping beach). Swells present on 12 KC and uniboom records. Strong current causing set toward Pt. Conception.
- 0545-0600- Start and complete Line 7-20.
- 0606- Start Line 7-21. Reverse EPC belt. South winds 5-10 knots; swells 3-6 feet and choppy, calm.
- 0737- Circle to put new roll in EPC.
- 0745- back on position. Return 0.1 nautical mile west of 0737.
- 0845- Check with Frontier Control
- 0852- End Line 7-21, bedrock at surface. Kelp beds start in same area.
- 0920- Start Line 7-31.
- 1122-1126- Start and end cross line 7-28
- 1200- Start Line 7-29
- 1332- End Line 7-29
- 1335- Start Line 7-26. Parallel to Line 7-26, rocks on shore medium-thin bedded, highly folded. Four to five faults on headland area; one major one at Rocky Point in Blocky sandstone.
- 2200- Vandenberg weather reports trough 128°W moving east. High 28°N 120°W stationary and weakening, winds 9 knots; swells 3 feet. Next 36 hours- trough will bring SW winds 3-5 knots.
- 1410- Still on Line 7-26, EPC down. Return to c/c position of 1356 (331°T) 1432=1356 position, perhaps slightly earlier.
- 1500- Abeam Point Arguello. Rocks off Pt. Arguello, bedding very irregular.
- 1515- End Line 7-26

1530- Start Line 7-27

1545- Lost all generators due to dirty filters; go to San Luis to pick up filters.

March 9, Thursday

0222- Start Line 7-27 again.

0430- Uniboom down- catch broken off belt

0442- R/R

0515- Quaternary canyon fill on Line 7-27. Calm seas, 1-3 foot swells, flat, variable winds SE

0535- End Line 7-27

0537- Start Line 7-40

0540- Uniboom on. Problem with Raytheon paper feed. Restart line, complete Line 7-40; continued with Line 6-38.

0813- Start Line 6-47; EPC to left.

0911- End Line 6-47

0914- Start-Line 6-32. Due to increasing NW winds with cruise day, plan to cover west portion of cruise day early; Line 6-32 will extend from 6-47 to 6-37.

1008- Start Line 6-37 after circling for radio contact with Frontier Control. Record bearing during circle for strike/dip of rocks on Conception; dipping 70°-90°T.

1011- equals fix at 0952 on Line 6-32.

1049- Start Line 6-35. EPC To on RT.

1252- Start Line 6-33.

1327- Lost green generator- no fresh water cooling. Restart Line 6-33
at 1315 position.

1428- Restart Line 6-33 again at 1315 position

1511- Appears to be a rock high off side.

1723- Start Line 6-19. Kelp on uniboom.

1753- Restart Line 6-19

2137 - End Line 6-19.

2143 - Start Line 6-45. Belt with position OK overlap OK.

2320 - 6-45A c/c x o/c close turn.

2333 - 6-45A turn into Line 5-39. Belt flip at end of 5-39. Winds increasing
from NW at 6-10 knots; swells from approaching storm increasing.

March 10, Friday

0200- Start Line 5-23, problem with EPC roll and Gifft recorder; also
EPC belt.

0233- Restart Line 5-23. Match 0200=0233

0410- End Line 5-23

0411- Start cross line 5-24; o/c 241°T.

0425- End Line 5-24,

0444- Start Line 5-25; o/c 152°T

0645- Start Line 5-25; uniboom off; change paper. Other systems going.

0650- Uniboom on; 8-12 foot swells, winds 5-10 NW.

0710- End Line 5-25.

0712- Start Line 5-36.

0725- On Line 5-36; intersects with Line 5-39 and 5-23.

0735- Turn uniboom off due to rolling seas and poor record for Hi-Res; swells 8-10 feet. (Use Line 7-40 and Line 6-38 combination for replacement).

0827- End Line 5-36.

0841- Start Line 5-17.

0900- Abandon Line 5-17. Head for San Luis to wait it out. Swells too large for Hi-Res work.

1500- In Port San Luis. Suck out fuel from rear tanks. (4-500 gallons) Refuel, top off fuel tank, water, etc.).

March 11, Saturday

1030- R/R with Kendalls 6 HP; ship crew shopping for food, etc. Anchor winder fails, ship drifts; moved ship, lost anchor, windlass chain broke; down until replacement found.

March 12, Sunday

0530- Dog on anchor winch under strain, wedged again.

0830- Chief ashore to make arrangements to run to Morro Bay for necessary repairs.

1100- Hoist both anchors; head for Morro Bay.

1500- Arrive Morro Bay. Repairs underway.

March 13, Monday

0800- Call repair service for windlass disassemble. Pull off old cable; R/repair oarlocks on whaler.. Order anchor chain from San Francisco. Chain to arrive 1300. Stay in Morro Bay for repairs.

March 14, Tuesday

Continued repairs in Morro Bay

1115- Head for San Luis Harbor. Check with Harbormaster about anchor.

Set up for continuation of cruise for 0300, March 15.

March 15, Wednesday

0530- Start Line 2-2. No 12 KC, swells 4-6 feet; uniboom down-problems.

Try USGS Arcer- swell motion too severe for recording.

0634- End Line 2-2.

0635- Start Line 2-1; 30 KJ only

0806- End Line 2-1, circle to call Frontier Control.

0817- Start Line 2-4

0847-0849- USGS Arcer shows 7 fathoms of young sediment cover;
truncated beds below.

0907-0920- USGS Arcer shows 10 fathoms of cover, increases to 20
fathoms at 0918, truncated beds.

0934- End Line 2-4.

0937- Start Line 2-11. (0955-0958, USGS Arcer = 10 fathoms cover;
1107-1112, USGS Arcer = 15-20 fathoms cover.)

1113- End Line 2-11.

1115- Start Line 4-14.

1130- End Line 4-14.

1132- Start Line 2-17. USGS Arcer start.

1205-1206- USGS Arcer down

1222- c/c to 015°T. EPC still down.

1311- USGS Arcer back on, with apparent sediment cover.

1322- c/c to 312°T (same line) USGS Arcer down and up again- data
no good. Swells too large; distortion.

1421- End Line 2-17.

1424- Start Line 2-17A Line is to tie in as a continuous line with
2-11, 4-13, and 3-15. Position of end of Line 2-4 at 0938
equals 1530 on Line 2-17A. (2NM. east of position).

1545- End Line 2-17; intersect Line 2-11.

March 16, Thursday

EPC down

0247- Start Line 3-19

0250-0300- USGS Arcer on; about 13 fathoms at start to 10 fathoms as
0300 with cover.. Swells subsiding, wind 0 to variable.

0326-0332- USGS Arcer on; rock outcrop.

0405- End Line 3-19.

0406- Start Line 3-21. USGS Arcer on 0421-0424 (10 fathoms cover);
USGS Arcer on 0450-0454 (5 fathoms cover).

0455- End Line 3-21.

0456- Start Line 3-8. (Medium-large swells present). USGS Arcer on
0459-0510 (20 fathoms cover); USGS Arcer on 0531-0535 (about
30 fathoms); USGS Arcer on 0601-0605 (swells too high).

0632- End Line 3-8. c/c

0635- Start Line 3-3 . o/c

0645-0649- Slow speed; 150 RPM to allow ship to pass.
0734- End Line 3-3. c/c
0736- Start Line 3-6. o/c
0755-0912- USGS Arcer on; 1/4 sec; 400 joule, 310-320 Hz. (start 10 fathoms cover). This course more acceptable to Hi-Res USGS-Giff. Arcer (USGS) run for almost entire line.
0856- Cross Line 2-11
0912- End Line 3-5, which intersects Line 2-17 at 1200.
0932- Start Line 3-15
0953- Crosses Line 3-19 at about 0322.
0949- Crosses Line 2-17; crossing on Line 2-17 is at 1223.
1115- c/c
1116- o/c, 312°T
1136- c/c
1137- o/c, 000°T
1157- approximate crossing of starting position of Line 2-2
1215- End Line 3-15

March 17, Friday

0406- Start Line 1-7; 30 KJ, uniboom, light, medium swells.

Excellent example of fault between 0515 and 0530 on both systems. with sediment cover. Water column reflection indicates fish or high seafloor outcrop.

0824- End Line 1-7

0827- Start Line 1-10

0856- End Line 1-10

0916- Start Line 1-5. Position 0918 = 0856 on Line 1-10

1125- c/c, uniboom power cable blown; r/r circle

1149- Back on Line 1-5, equals 1115 position; mark at 1159 = 1125 part
of circling

1255- Line 1-5; drive on EPC malfunction

1301- EPC back on

1311- Line 1-5 crosses Line 2-4

1353-1357- change uniboom paper

1410-1417- uniboom down; blown capacitor in Trigger Bank, rewire.

1445- End Line 1-5.

March 18, Saturday

0445- Start Line 4-1A. Extention of 2-1 to 3-3. o/c 192°T

0450- c/c 182°! Start Line 4-1A 30 KJ, uniboom (swells medium plus
choppy. The 0545 position = starting position of Line 3-3
(already run).

0603- Turn off uniboom due to rough, choppy seas

0639- Start Line 4-3A at intersection of lines 3-3 and 3-8.

0730- End Line 4-3A

0732- Start Line 4-3B

0821- uniboom on

0830- = 0815 on Line 1-7

0851- uniboom off, drive feed stopped

0853- Uniboom on, medium swells, medium-heavy chop, NW

0910- 384 feet of penetration; 210 feet of water

0920- End Line 4-3B

0922- Start Line 4-23; 30 KJ, uniboom, sea fairly rough, much distortion due to water (poor record)

1052- Uniboom off with paper and belt reverse to the right. Previous record this line paper and belt on left

1105- Uniboom on again

1117- End Line 4-23. Same position as end of Line 3-15. Add time for overlap on 3-15

1127- End overlap onto Line 3-15

1156- Begin new overlap onto Line 4-13

1200- Start Line 4-13. 30 KJ, uniboom (poor record). Heavy, choppy swells, NW 20-35 knots. High exaggeration.

1320- End Line 4-13. c/c at 0902 on Line 4-3B= c/c on Line 4-12.

1321- Start Line 4-13A. o/c 148° (new line)

1440- Line 4-13A intersects Line 4-B.

1454- End overlap section.

March 19, Sunday

0158- Start Line 5-17. Uniboom and 30 KJ; wind 15-20 NW. Moderate seas and choppy.

0321- End Line 5-17; uniboom off

0323- Start Line 5-17A; W-E

0335- End Line 5-17A

0337- Start Line 8-15; 30 KJ, uniboom

0358- Heavy rolls; uniboom off, adjust belt, stylia
0403- Uniboom on.
0441- Circle to remove kelp.
0501- Back on Line 8-15. (0.5-0.3 nautical mile overlap- 0508=0444).
0523- End Line 8-15, c/c.
0524- Start Line 8-14 W-E (north end), 30 KJ only.
0531- Uniboom on.
0533- Uniboom off, kelp. Abandon line; c/c to avoid kelp bed.
0542- Start Line 8-13, N-S.
0700- End Line 8-13
0702- Start Line 8-12, W-E.
0715- End Line 8-12.
0715- Start Line 8-11, S-N.
0807- On Line 8-11, Harry and Herman in line.
0811- End Line 8-11
0812- Start Line 8-10, W-E, no c/c mark
0817- Uniboom on.
0825- End Line 8-10.
0827- Start Line 8-9, N-S.
0936- Uniboom off due to bad belt.
0940- End Line 8-9.
0942- Start Line 8-8, W-E.
0950- End Line 8-8.
0951- Start Line 8-7, S-N.
0958- Uniboom on.
1044- End Line 8-7.

1046- Start Line 8-6, W-E; numerous turns; first, 6-7 minutes.
1103- End Line 8-6.
1106- Start Line 8-5, N-S.
1216- End Line 8-5.
1220- Start Line 8-4, W-E.
1228- End Line 8-4.
1230- Start Line 8-3, S-N; 30 Kj (uniboom off- stylii problem)
1234- Uniboom on.
1306- Passed oil rig abeam.
1317- End Line 8-3.
1319- Start Line 8-2, E-W; (end Line 8-3 at point between Herman and
Harry) Sandstone on beach cliffs tie with hard surface on
uniboom record below thin cover near end of Line 8-3).
1332- c/c 240°T to avoid kelp.
1340- Intersection with Line 8-5.
1345- c/c 250°T.
1352- Uniboom off- new belt.
1357- Uniboom on.
1400- Intersection with Line 8-5.
1412- End Line 8-2; c/c 180°T.
1413- Start Line 8-2A.
1414- In line with Herman and Harry.
1437- Crossing Line 8-13.
1448- Uniboom off.
1514- End Line 8-13; intersects with Line 8-15.

March 20, Monday

0700- Run comparative test line with Raytheon and EPC on 30 KJ;
Raytheon = Master, 3 sec sweep; EPC = Slave, 2 sec sweep. Time
base difference requires different sweep, 125-50 HZ, high gain
level, no FWC due on run, medium resolution streamer, 2 ladders
15 KJ, 18 KJ

0945- End run; 210 RPM.

March 21, Tuesday

30 KJ and uniboom (to on right side to match Raytheon)
Start transit leg from Port San Luis to Cape San Martin.
0815- First fix, heading 225° to turn west of Port San Luis.
0856- End with 225°, c/c.
0858- Start new course of 319°T.
0909- Uniboom stylus problems.
0914- Uniboom back on; swells 3-5 feet, seas calm; no wind swell motion
in record, over rock outcrop; 5.2 knots.
1015- Uniboom off with paper and belt problems.
1024- USGS Hi-Res. system off; uniboom on.
1045- c/c 345° off Pt. Buchon; EPC 600-1700 Hz, 1/4 sec. sweep 2 KJ;
Raytheon 30 KJ, 125-50 Hz; 1 1/2 sec sweep; 3 RR.
1249- c/c 312°T, 5.2 knots;
1430- USGS Hi Res system on; uniboom off
1439- USGS off; uniboom on. Largest swells 6-8 feet.

1644- USGS on; uniboom off. Paper feed problems on EPC.
1646- Uniboom on; USGS off.
1730- Uniboom off; USGS on. Paper feed problems
1750- Slowed speed due to kelp fouling uniboom; increase speed. USGS
on; uniboom off; problems with paper and belt.
1812- uniboom on.
1909- uniboom off; stylii problems; USGS on, stylii back on EPC.
1921- Uniboom on; USGS off.
2025- c/c
2026- o/c 317°F
2036- Uniboom off; canyon area.

March 22, Wednesday

0125- Turn on Uniboom.
0127- On station.
0134- Uniboom misfires.
0136- Uniboom on.
0146- Uniboom off.
0147- Uniboom on.
0149- Trigger bank off.
0151- c/c 353°F
0238- Hang fire trigger bank.
0317- Belt stylii broken.
0322- Uniboom back on.
0345- Ran out of paper.

0355- Uniboom back on.

0412- .125-.375 depth.

0413- .25-.50 depth.

0415- End of line; uniboom off; speed to 6 knots and 215 RPM.

0600- Raytheon only; mode 2, 0-600 fathoms; mode 3, 150-750.

0615- Mode 5, 450-1050 fathoms.

0631- Mode 4, 300-900 fathoms.

0707- Mode 3, 150-750 fathoms.

0715- Speed to 5 knots for uniboom run.

0717- Mode 2, 0-600 fathoms.

0719- Uniboom on; medium swells, south wind 15-20 knots, choppy.

0730- c/c 302°

0810- Fault with 20 feet of displacement.

0835- Fault with 20 to 40 feet of displacement.

0908- Uniboom off; stylis broken off belt; problems with belt and
paper.

0917- Uniboom on; USGS off.

0939- Blew capacitor trigger bank.

0940- Uniboom on; Wind 20-25 west and north; seas very confused, choppy.

1013- c/c 313°T. (Records on uniboom are marginal from 0800 on, poor
at end. White blanks are uniboom leaping out of water).

1330- End line north of Monterey at Ano Nuevo Point.

END CRUISE